A

Synopsis of thesis entitled

"A COMPARATIVE STUDY OF MOTOR FITNESS OF MALE STUDENTS (General U.G. Courses) OF GOVERNMENT AND NON-GOVERNMENT COLLEGES OF HARYANA."

To be submitted to

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

By

Mr. Vimal Parkash

Research Student at Swami Ramanand Teerth Marathwada University, Nanded, Maharashtra

&

Assistant Professor in Physical Education at Pt. J.L.N. Govt. College, Faridabad, Haryana

Under the guidance of

Dr. GHAYAL BABURAO LAXAMANRAO

Research Guide in Physical Education,

Indira Gandhi College, Cidco Nanded

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED, MAHARASHTRA

Index

Sr.No.	Particulars	Page No.
1.	**Chapter I- Introduction**	3-8
	Statement of the Problem	6
	Purpose of the Study	6
	Significance of the Study	6
	Hypothesis	7
	Delimitations	7
	Limitations	8
	Operational Definition	8
2.	**Chapter II** - Review of Related Literature	9-13
3.	**Chapter III** - Research Methodology.	14-20
	Sources of Data	14
	Selection of Subjects	14
	Tools and Test Battery	14
	Description of the Tests	15
	Collection of Data	19
	Processing of Data	19
4.	**Chapter IV** -Analysis of Data and Interpretation	21-22
	Statistical Treatment	21
	Findings	21
5.	**Chapter V** -Summary and Conclusions	23
6.	References	24-25

CHAPTER – 1

INTRODUCTION

Motor Fitness is the ability to make adequate physical and emotional adjustments to the demands of everyday living; therefore the concept of motor fitness in terms of meeting directly the requirements of daily life has been widely accepted. A physically fit person not only meet the daily requirements which are accented to carry his job effectively but also is left with energy in himself for leisure time pursuits in addition to unfrozen emergencies.

It is self evident that the fit citizens are nation's best assets and weak ones its liabilities. It is therefore the responsibility of every country to prompt motor fitness of its citizens because motor fitness is the basic requirement for most of the tasks to be taken by an individual in his life. If a person's body is under development or grows soft or enactor and he fails to develop physical prowess he is undermining his capacity for thought and for work, which are of vital importance to one's own life and society in a welfare state. Motor Fitness is the natural outcome of a rich programme of physical education. Thomas (1964) remarked that it is the sum of the condition of one's body judged in terms of age. Right weight and chest expansion, absence of defects, constructional defection or bodily introit, full physical development, vigor and radian health should be seen in one who is physically fit.

According to the medical point of view, the American Medical Association (AAHPER, 1958) defined the term physical fitness

as the general capacity to adapt and respond favorably to the demands put on the body. The degree of motor fitness depends upon the individual's state of health, constitution as well as present and previous motor activities.

Physiologists defined the term as the ability of the organization of maintaining various equilibrium as closely as possible to the resting state during the strenuous exertion and to restore promptly after exercise any equilibrium which has been disturbed, The dysfunctional puts fences around the term by limiting sphere to various systems of the body.

Thus we find that the three groups have defined the term in different ways. However they agree on one point that motor fitness is the capacity to prolong hard work and restore promptly after that. In terms of usefulness motor fitness is the total functional capacity of an individual to perform a particular task without fatigue or exuviations having always a reserve of energy to meet heavier demand made of the individual during stress and strain.

Clarke (1966) advocated that the terms physical fitness and motor fitness are used interchangeably. However, motor fitness has a broader concept which covers both physical fitness and motor ability factors.

Barrow and McGee (1971) contradicted this view & described the terms physical fitness as a broader concept which included motor fitness. **Darvis (1974)** also supported the view of **Barrow and McGee (1971)** and drooled that physical fitness includes both motor fitness and physical working capacity.

Three components of physical fitness i.e. muscular endurance and cardio respiratory endurance were described as commonly accepted elements of physical fitness as muscular power, agility, speed, flexibility and balance. On the basis of the above deviation it can be said that motor fitness is the capacity to do prolonged hard work and recover to the same state of health in short duration of time. This is the result of the degree of strength, speed, endurance, agility, power, and flexibility one possesses. Since physical fitness covers notes fitness, the program of motor fitness should invite development of certain basic elements like strength, speed, agility, power, flexibility and endurance. These motor fitness elements are useful for different games and sports.

In order to improve the standard of physical performance at national and international levels, our physical education program should lay greater emphasis on all –round development of school and college students. Those countries which have been winning laurels in the fields of sports and games at the international level have laid special emphasis on the development of sound programmes of motor fitness at the school and college level. It is greatly believed that public school and college students are themselves fit and agile as compared to the government school and college students. The diet plays vital role in the maintenance and improvement of motor fitness. Environment also plays an important role in the motor fitness. Regular participation in well planned systematic segmental progressive and program of physical education contribute to improvement of motor fitness

and this in turn impress the skill and performance capacity of the participants of games and sports.

1.1 STATEMENT OF THE PROBLEM

The present study is stated as **"A COMPARATIVE STUDY OF MOTOR FITNESS OF MALE STUDENTS (General U.G. Courses) OF GOVERNMENT AND NON-GOVERNMENT COLLEGES OF HARYANA."**

1.2 PURPOSE OF THE STUDY

1.2.1 The major objective of the study is to compare the motor fitness of male students' Government and Non-government Colleges.

1.2.2 The other purpose of the study is to know the status of motor fitness of male students' Government and Non-government Colleges.

1.3 SIGNIFICANCE OF THE STUDY

Study of motor fitness is very useful in our life to carry on the work without stress and strain. The study uses simple method to determine the motor fitness components of male students' of Government and Non-government colleges. This information will be very useful to coaches and physical educationists in India to produce better athletes and improve our performance in international events. Since time and money are constraints in Indian conditions, this information will be particularly useful in selection of the talent for various games and sports. The

population of the country will be getting knowledge about the motor fitness of Govt. and Non-govt. school boys.

1.4 HYPOTHESIS

Keeping in view the objectives of study and reading the related literature, null hypothesis is framed for the present study and will be observed.

1.4.1 There will be no difference in speed and agility component of motor fitness of male students' of Government and Non-Government Colleges.

1.4.2 There will be no difference in strength component of motor fitness of male students' of Government and Non-government Colleges.

1.4.3 There will be no difference in endurance component of motor fitness of male students' of Government and Non-government Colleges.

1.4.4 There will be no difference in flexibility component of motor fitness of male students' of Government and Non-government Colleges.

1.4.5 There will be no difference in power component of motor fitness of male students' of Government and Non-government Colleges.

1.5 DELIMITATIONS

The present study will be delimited for the following factors:

1.5.1 The present study will be based only on male students' of

Government and Non-Government colleges of Haryana.

1.5.2 The present study will be based only on male students' of Under Graduate Course from Government and Non-Government colleges of Haryana.

1.6 LIMITATIONS

1.6.1 Motor Fitness background of the subjects will be unknown to the researcher.

1.6.2 Social and Economical status of the subjects will be unknown to the researcher.

1.6.3 No specific devices will be adopted to motivate or discourage the subjects during the data collection.

1.7 OPERATIONAL DEFINITION OF THE TERMS

1.7.1 **Comparison**

Compare the things with each other, at least two**.**

1.7.2 **Motor fitness**

Motor fitness defined as the ability to carry out daily task with vigor and alertness without under fatigue and with ample every to enjoy leisure time pursuits to meet unforeseen emergencies.

1.7.3 **College Students**

Students are studying in the colleges of Haryana state.

CHAPTER – 2

REVIEW OF RELATED LITERATURE

Sincere efforts will be made by researcher to go through the literature related to the study under consideration. This investigation will be an attempt to present a brief review of the literature. For the purpose of the present study the literature will be reviewed following two heads:-

1. **Motor Fitness measurement tests**
2. **Motor Fitness comparison**

1.1 MOTOR FITNESS MEASUREMENT TEST

Considerable research will be done in the field of constructing tests for measuring motor fitness. These tests will be developed for different purpose like classification, gradation as well as assessment of players. Brief reviews of such studies in professional journals research quarterlies and in books are given in the following paragraph.

Scott (1939) who developed the first comprehensive test by measured in the status of general motor ability with three batteries of obstacle-run, standing broad-jump and basket ball throw for college women.

Philips (1947) developed a three item battery which consisted of vertical jump, chinning and 100 yards shuttle run on the course of 10 yard by turning over boxes.

Borrow (1954) constructed a motor ability test for college men which consist of three items zigzag run medicine ball put as standing broad jump.

Blesh and **Schalz (1957)** in Yale University developed a test of motor fitness for college freshman students after a surge for 10 years. The test consisted of six items: pull ups, fence vaults, sit ups, standing broad jump and vertical jump.

American Association of Health, Physical Education and Recreation (1958) developed "AAHPER YOUTH FITNESS TEST" this battery tests included screen test and were to be conducted on two successive days. First duty items pull ups for boy and modified pull ups for girls, sit ups shuttle ruin and standing road jump. Second day items- 50-yard desk, soft ball throw and 600 yard.

Ismail and **Cowell (1962)** devised four batteries for boys of 12-15 years of age which included the items of broad jump, soft ball throw and chin.

Cooper (1963) modified JCR test to simplify administration in British school the order of items was changed to shuttle run with fort touch over the lines, line beam or bar and vertical jump.

Kirchner (1970) constructed motor fitness test battery for elementary children (boys and girls age from 6 to 12). This battery included the test standing broad jump, bend pushups,

squat jump and 30 yard dash.

Borow and **Mcgee (1971)** described a motor fitness test which included the items for boys and girls of 9-18 year leg sit up side stepping.

A review of the published tests of general indoor ability motor fitness and physical fires reveals that similar test items were included in the batteries.

2.1 MOTOR FITNESS COMPARISONS

A brief review on the motor fitness comparison is given below:

Del (1968) compared the motor fitness level of athletes and now athletes over a four years period at the University of North Dakota. The students involved were freshmen who had been enrolled at the University of North Dakota but did not participate for three years in inter-collegiate football, basket ball, wrestling, cross country and hockey. The AAHPER youth fitness test was administered in 1963 and both the groups were retested during the first semester of 1966-1967. Some of the conclusion indicated that the athletes showed significant improvement in all the selected measures of motor fitness except the 50 yard dash and sit ups. The non athletes significantly improved in the 600 yard run wall and sit ups.

Robson (1969) compared 150 subjects (boys and girls) from grade one to five in order to assess the motor fitness of

elementary school students of defense and non-defense personnel. The subjects were administered six items- 50 dash, axiom shuttle, sit-ups, modified pushups, vertical jump, 600m run walk, it was concluded that the elementary school girls and boys studying in grade one to five and belonging to defense personnel performed significantly better in motor fitness as compared to boys and girls belonging to non-defense personnel.

Barnet (1975) after having conducted some progressive exercise test on basketball, skaters and runners have reported that the basketball players had a good cardio-respiratory fitness which was helpful for their successful participation in competitions.

Marrow (1980) India a comparative study on mines inter-collegiate basketball, volleyball players and non-athletes. They took 330 women college students as the subject for this study. The subjects were 100 women from each of the above tested groups. Athletes were found to differ significantly from non athlete on all variables which basketball players had longer arm, wider billiard slower spirit time and greater upper and lower body strength than the volleyball players.

Shekhar (1981) made a study to compare the selected physical fitness components speed, extended flexibility, leg explosive strength gross body coordination respiratory endurance of football and basketball players. On the basis of date it was concluded that basketball players were comparatively superior to football players in extended flexibility and dynamic flexibility.

The football players were found to be having leg explosive strength, abdominal strength and gross body co-ordination.

Chattopadhyay (1982) made an attempt to compare the physical fitness of university level soccer and hockey player. The criterion measures selected for assessing physical fitness were resting pulse rate copper`s 12 minute run walk and **AAHPER** youth fitness test battery and he found that there was significant difference in fifty yards favoring the soccer team and pull ups favoring the hockey teams.

Gibbon and Thomas (1998) conducted a study on the influence of physical education activity classes on students with an opportunity to learn new skills and provided maturation to continue to participate in activities and personnel fitness program.

Singh (2001) compared the physical fitness of rural and urban school boys of Bhiwani District of Haryana. The result shows that rural school boys are better than urban school boys.

CHAPTER – 3

METHODOLOGY

In this chapter the researchers should write in detail what procedure will be adopted to collect data, selection of subjects, sampling procedure and what measurements will be adopted for the study.

3.1 SOURCES OF DATA

For the present study data will be collected on the male students of under graduate classes from the Government and Non-Government colleges of Haryana.

3.2 SELECTION OF SUBJECTS

About 440 male students from U.G. courses will be selected randomly from the different Non-Government colleges and about 440 college male students from U.G. courses will be selected randomly from different Government colleges who represent the Non-Government and Government population.

Total 880 students as the subject will be selected from different Government and Non Government colleges of Haryana.

3.3 SAMPLING PROCEDURE

The purposive procedure will be employed.

3.4 TOOLS AND TEST BATTERIES

The main objective of this study is to compare the motor fitness of government and non-government college male students (General U.G. Courses) of Haryana. In this investigation the motor fitness of the students will be in term of endurance, strength, power, speed agility and flexibility. These six elements of motor fitness will be studied with the help of following different selected tests for the study.

3.4.1 Speed and Agility Test

3.4.2 Power Test

3.4.3 Strength Test

3.4.4 Flexibility Test

3.4.5 Endurance Test

3.5 DESCRIPTION OF THE TESTS

3.5.1 ZIGZAG RUN TEST

Purpose

Measure the speed and agility of the subjects.

Facilities and Equipments

An area of 70 meters, finishing rope (Tape), a whistle, a stop watch and white marking powder.

Precautions and Instructions

Five flag posts (four at the corners of 10.10 meters square and one at the centre) are fixed. A starting and finish line is drawn at

the side of a flag post. The subject assume a starting stance on the starting line, on the blow of the whistle he runs in the figure of a across the five flag posts as fast as possible and covers three rounds to finish the run at the finish line. The subjects are asked to run as fast as possible and close the flag posts without touching them. Two attempts are given to each subject. The time in seconds to complete the given course is recorded each time.

Scoring

The best time taken in seconds out of the two attempts is the final score of the subjects.

3.5.2 STANDING BROAD JUMP TEST

Purpose

To measure power

Facilities and Equipments

The event will be explained and demonstrated before the testing commences. The subject will assume a starting position behind the take off mark with his feet parallel. A preliminary movement of bending the knees and swinging the arms will be allowed after which the subject will be jumped out as far as possible in dung pit, taking off from the mark with feet simultaneously. The subjects will also be cautioned not to fill back after landing. Three trials in succession are given.

Scoring

Each jump will be measured in meters from the nearest break to the take off line. The final score will be the best jump measured to the nearest meters.

3.5.2 EIGHT POUNDS SHOT PUT TEST

Purpose

To measure strength

Facilities and Equipments

A marked circle and sector for shot put event as per rules of amateur Athletics Federation of India. A measuring tape and a shot put of eight pounds are required.

Precautions and Instructions

The event will be explained and demonstrated as under:

The try out will be to put not to throw. The shot will be put from the shoulder with one hand only. At the time the subject will take a stands in the ring to commence a put. The shot should be touch or will be in close proximity to the chin and the hand not dropped below this position during the action of putting. The shot will not brought from behind the line of shoulders and it land in between the sector lines marked as landing area.

Scoring

Each put/throw will be measured in meters from the nearest mark made by the fall of the shot to the inside of the circumference of the circle. The final score will be the distance of shot put measured to the nearest meters.

3.5.3 BEND AND REACH TEST

Purpose

To measure flexibility

Facilities and Equipments

A wooden table or a stool, a foot ruler with centimeter marking

Directions and Instructions

The subject will be assumed a standing stance at the edge of a table where a foot ruler mounted with its midpoint at the level of edge of the table. He will bend his trunk forward to reach and touch the rule with his hands, keeping his knees straight. The distance in centimeter from upper edge of the table will be recorded on the scale. Before the commencement of the test, demonstration will be given to the subjects and explained to bend forward keeping the knees straight on both the same at even level.

Scoring

The distance in centimeters from the upper edge of the table to the point where the hands touch the scale will be recorded as the positive score where as the distance above the level of the table recorded as the negative score.

3.5.4 COOPERS' 12 MINUTE RUN WALK TEST

Purpose

To measure endurance

Facilities and Equipments

Track of 400 or 200 meter.

Directions and Instructions

The subjects will be asked to run continuously at an even pace for 12 minutes in a 400 or 200 meter track. They are further instructed to run in the innermost lane of the track. However

they are allowed to walk in between when unable to run. The test is conducted on 10-12 subjects one time.

Scoring

The total distance covered in meters by the subject in 12 minutes is the final score.

3.5.5 RELIABILITY AND VALIDITY OF THE TESTS

Before the tests are used in research reliability and validity of the five tests used in this study was established by the researcher.

3.5.6 ADMINISTRATION OF THE TESTS

The tests will be administered under experimental conditions before administering the tests; the investigator will explain to the subjects the purpose of the study, names of the tests to be used in the study and procedures to be followed in each test. The investigator also will be demonstrated the procedure for performing each tests.

3.6 COLLECTION OF DATA

Keeping in the difficulty of administering the test and collection of the data individually the investigator will be required the help of Physical Education Teachers working in the colleges.

3.7 PROCESSING OF DATA

All the collected data will be arranged systematically and processed with the help of following statistical techniques. In order to know the nature of data, measure of central and dispersion like mean and S.D. were used with the following formula:

Mean = $\sum \frac{X}{N}$

S.D. =

SED. = $\sqrt{\frac{SD_1^2}{N_1} + \frac{SD_2^2}{N_2}}$

t = $\frac{M_1 - M_2}{SED}$

CHAPTER – 4

ANALYSIS OF DATA & RESULTS OF THE STUDY

In this present chapter, the analysis of data will be presented in five sections. The first section will deal with analysis of zigzag run test, second will deal with analysis of standing broad jump test, the third section will deal with analysis of 08 lbs. shot put test, the fourth section will deal with analysis of bend and reach test, the fifth section will deal with analysis of Coopers' run or walk test.

4.1 STATISTICAL TREATMENT

To describe the collected data descriptive statistical technique will be used to determine the significant difference between the means of different tests values of public and government college male students' **'t' test** will be applied.

4.2 LEVEL OF SIGNIFICANCE

To test the hypothesis level of significance will be set at 0.05.

4.3 FINDINGS

As per the objective of the study and hypothesis stated earlier the finding will be presented in the different heads and tables.

4.4 DISCUSSION ON FINDINGS

On the basis of findings the discussion on findings will be

explained.

4.5 TESTING OF HYPOTHESIS

On the basis of findings the hypothesis will be tested.

CHAPTER – 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The whole study will be summarized and concluded by testing the formulation hypothesis, on the basis of statistical analysis. For the further study recommendation will be made.

References

Hennessay and Watson, “The Interference Effect of Training for Strength and Endurance Simultaneously”, ***Journal of Strength and Conditioning Research***, 8:1, (February 1994), 12-19.

K. Spanos, L. Karaiskos, E. Zetou and C. Portokalis, “The Effects of Two Resistance Training Programs in Maximum Strength and Muscular Endurance of Male Adults”, ***Physical Training***, (August 2007), 1 – 3.

Tudor O. Bompa, ***Periodization*** : ***Theory and Methodology of Training***, (4^{th} ed.,), (Champaign, Illinois: Human Kinetics Publishers, 1999), p.54.

K. Spanos, L. Karaiskos, E. Zetou and C. Portokalis, “The Effects of Two Resistance Training Programs in Maximum Strength and Muscular Endurance of Male Adults”, ***Physical Training***, (August 2007), 1 – 3.

S. Chidambara Raja, “Comparative Analysis of the Effects of Continuous and Interval Running on Cardio-respiratory Endurance”, ***Unpublished M.Phil., Dissertation***, Annamalai University, (1992).

Hennessay and Watson, “The Interference Effect of Training for Strength and Endurance Simultaneously”, ***Journal of Strength and Conditioning Research***, 8:1, (February 1994).

Addison, M.J., **“An Introduction to Electro Goniometry”**, Kinesiology Review, AAPHER, 1970.

Barrow, H.M., **"Test of Motor Ability for College Men"**, Research Quart Vol. 25.2, May 1954, p 253-260.

Dervish, H.A., "**Physiology of Exercise for Physical Education and Athletics"**

Singh Virender, **"Comparative Study on Physical Fitness of Rural and Urban School Boys (12-15 Years) of Bhiwani District, Haryana"**.

Parkash, Vimal, **"A Comparative Study of Physical Fitness of Government and Non-Government School Boys (11th & 12th Class) Of Faridabad (HR)"**, International Journal of Physical Education Health & Sports Science, Vol. 04.49, October, 2015.

RESEARCH STUDENT

VIMAL PARKASH
School of Educational Sciences
S.R.T.M.University, Nanded
Maharashtra

RESEARCH GUIDE

Dr. GHAYAL BABURAO LAXMANRAO
Director of Physical Education and Research Guide In Physical Education Indira Gandhi Sr. College, Cidco, New Nanded, Maharashtra